

The present invention relates to (a) methods for improving a genetic stability of an insert nucleotide sequence in a recombinant single-stranded RNA virus vector, which comprises performing a mutagenesis of the foreign insert nucleotide sequence to provide even distribution of G/C content throughout the overall foreign insert nucleotide sequence and/or to increase G/C content of the foreign insert without substantially causing amino acids substitutions (b) a recombinant single-stranded RNA virus comprising an insert nucleotide sequence with improved genetic stability and (c) a recombinant poliovirus comprising an insert nucleotide sequence with improved genetic stability.